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COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

VERBATIM RECORD OF THE THREE HUNDRED AND FIFTY-SEVENTH MEETING

Held at Graz, Austria,
on Thursday, 30 May 1991, at 3 p.m.

Chairman: Mr. HOHENFELLNER (Austria)

- Report of the Scientific and Technical Subcommittee on the work of its twenty-eighth session (continued)
- Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (continued)
- Ways and means of maintaining outer space for peaceful purposes (continued)
- Organization of work

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91-60800 5231V (E)

The meeting was called to order at 3.15 p.m.

REPORT OF THE SCIENTIFIC AND TECHNICAL SUBCOMMITTEE ON THE WORK OF ITS TWENTY-EIGHTH SESSION (continued)

IMPLEMENTATION OF THE RECOMMENDATIONS OF THE SECOND UNITED NATIONS CONFERENCE ON THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE (continued)

Mr. HERNANDEZ BASAVE (Mexico) (interpretation from Spanish): In the general debate, my delegation referred to the work carried out by the Scientific and Technical Subcommittee in 1991. Now I should like to point out my delegation's position regarding a few issues.

The Subcommittee's work on the item concerning the use of nuclear power sources in outer space has been extremely productive. The agreement reached in 1990 on the technical recommendations on draft principle 3 should eliminate one of the most complex aspects of the issue. That agreement was deftly translated into legal language in Geneva last year. We know that rapid advances in science and technology call for regular review of the principles we originally adopted. That is why draft principle 12 was included. My delegation feels that it is urgent for us to adopt the set of legal principles now. They are of great political importance for the progressive development of international outer-space law. We feel that the Scientific and Technical Subcommittee has fully carried out its mandate in that regard.

(Mr. Hernandez Basave, Mexico)

Hence, in my delegation's view the Working Group should not meet any more. The time released by that could be used to consider an item on space debris, as proposed some time ago by Sweden.

The growing concern in the world over the environment justifies the immediate inscription of such an item on our agenda. In regard to agenda item 9, my delegation thanks the Outer Space Affairs Division, so capably headed by Mr. Jasentuliyana, and the United Nations Expert on Space Applications for the great efforts they have exerted to promote international cooperation, especially through the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82).

We feel the various courses, seminars and meetings of experts should continue despite their cost; likewise, training and other assistance to developing countries should continue. This is in line with this morning's statement by Mr. Abiodun, the Expert on Space Applications.

With respect to the General Assembly's recommendation concerning the establishment of regional training centres for science and technology education, my delegation has already expressed the great interest of the Government of Mexico in serving as headquarters for the regional centre for Latin America and the Caribbean. The competent Mexican bodies are eagerly awaiting the assessment mission, which my Government will provide with all possible assistance to enable it to carry out its work successfully.

The Mexican delegation regards as most timely the Working Group's decision to conduct, for 1992, a detailed assessment of the implementation of the recommendations of UNISPACE 82. In addition to assessing what has been done, the Working Group should also clearly define its future path and role. For instance, it could explore the possibility of recommending an annual

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allocation of resources to finance the implementation of the UNISPACE 82 recommendations. The document on precedents in this regard that the Secretary-General has prepared to assist the Working Group in that task will certainly be most useful.

I do not want to conclude without expressing my delegation's thanks to Mr. Muhammad Nasim Shah of Pakistan for the devotion and enthusiasm with which he presided over the Working Group.

The CHAIRMAN: I call next on the former Chief of the Outer Space Affairs Division, Mr. Vladimir Kopal, observer for the International Astronautical Federation (IAF).

Mr. KOPAL (International Astronautical Federation (IAF)): It gives me great pleasure on behalf of the International Astronautical Federation (IAF) to deliver warm greetings and best wishes to the Committee on the Peaceful Uses of Outer Space at its thirty-fourth session. I am doing so at the request of the Federation's President, Mr. Alvaro Azcarraga of Spain, who represented the IAF at the twenty-eighth session of the Scientific and Technical Subcommittee, held in New York in February and March this year. With great satisfaction he reported about his participation in that session and about the work of the United Nations at the most recent meeting of the IAF Bureau, held in Paris this spring. The Bureau was considering, inter alia, the further development of cooperation between the IAF and the United Nations in the field of peaceful exploration of outer space. Unfortunately, Mr. Azcarraga was not in a position to come to Graz for this session of the Committee on the Peaceful Uses of Outer Space, and therefore requested me to present this statement on his behalf.

But first, Sir, I want to congratulate you warmly on your assumption of a significant position in the United Nations structure: the chairmanship of the

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Committee on the Peaceful Uses of Outer Space. Your country has played a guiding role in this Committee from the very beginning. Your predecessor, Mr. Jankowitsch, now Minister in the Austrian Federal Government, presided over this body very successfully for two decades. Even under his chairmanship you played an outstanding role in the work of the Committee. As head of your country's delegation you were always in the midst of negotiations on central issues on the Committee's agenda, finding mutually acceptable solutions or suitable management of problems. Therefore, your election as Chairman of the Committee represented the best choice in all respects.

I shall now make my statement on behalf of the IAF.

As is widely known, the International Astronautical Federation is an international non-profit non-governmental scientific organization. The IAF is the oldest body dealing with outer space matters; it was established as long ago as 1951, several years before space activities really started. At least two of its purposes as spelled out in the IAF constitution should be recalled here: fostering the development of astronautics for peaceful purposes, and encouraging participation in astronautical research or other relevant projects by international and national research institutions, universities, commercial firms and individual experts. The IAF has been attaining those aims for 40 years now with the participation of 121 member societies and institutions from 40 countries.

One of the major undertakings organized by the IAF every year is the International Astronautical Congress. In 1990 the Congress was held in Dresden, Germany, from 6 to 12 October. Under the theme "Space for peace and progress", the Dresden Congress took place shortly after the reunification of Germany and was probably the first large international meeting under the new conditions prevailing in that part of Europe.

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This year the IAF Congress will be held, at the invitation of the Canadian Aeronautics and Space Institute, the Canadian Space Agency and the National Research Council of Canada, in Montreal, Quebec, Canada, from 5 to 11 October 1991. Its theme will be "The next century: prospects for space". That theme will be developed during the Congress through a series of symposiums organized by the IAF jointly with the International Academy of Astronautics and the International Institute of Space Law, which were established many years ago by the IAF as specialized institutions.

In 1992, the designation of which as International Space Year has been endorsed by the General Assembly, a joint congress of the IAF and the Committee on Space Research (COSPAR) - the World Space Congress - will be held in Washington, D.C., in late August and early September.

(Mr. Kopal, IAF)

Another characteristic feature of the activities of the IAF is growing cooperation with the United Nations. Having observer status with the outer space Committee, the IAF actively participates in the Committee's work and endeavours. The Federation played an effective part in the preparations for the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82). It reports to this Committee regularly on highlights of space technology and upon the request of the Committee drafts expert studies. Several years ago the IAF began jointly with COSPAR to hold symposiums on the themes fixed by the Committee for special attention during the sessions of the Scientific and Technical Subcommittee in order to assist the Subcommittee's efforts to strengthen the science and technology content of its work.

Let me recall that in its report on its twenty-eighth session the Scientific and Technical Subcommittee noted with satisfaction that, at its invitation, COSPAR and the IAF organized in February 1991 a symposium on "Applications of airborne and satellite remote sensing for prospecting mineral and ground-water resources and for monitoring and managing biological resources, with emphasis on agriculture, taking into particular account the needs of developing countries". The Subcommittee expressed appreciation to both organizers for the very instructive symposium. Together with COSPAR and in liaison with member States, the IAF is ready to hold another symposium of that kind at the 1992 session of the Scientific and Technical Subcommittee on the theme fixed for special attention at that session: "Space technology and the protection of the Earth's environment: development of endogenous capabilities, in particular in developing countries, and in the context of International Space Year".

(Mr. Kopal, IAF)

The close cooperation of the IAF with the United Nations is reflected also in the programmes of the IAF Congresses. Thus, for example, during the forty-first IAF Congress, held at Dresden in October 1990, a special session on space and forest management was held, with speakers sponsored by the United Nations. Within the scope of the forty-second Congress to be held at Montreal in October 1991, a joint United Nations-IAF workshop on space technologies for development, hosted by the Government of Canada, will be held for about 30 participants from developing countries, which will then be invited to attend the Montreal Congress. A similar United Nations-IAF workshop is also planned for the joint IAF-COSPAR World Space Congress to be held in Washington next year.

Since the United Nations has endorsed the designation of 1992 as International Space Year, it should be recalled that the IAF closely cooperates, through its International Space Year Committee, with other organizations and bodies involved in formulating the programme for the Year. Specifically, the IAF has taken responsibility for the project on space and disaster mitigation, one of 12 projects relating to Earth science and technology. The IAF International Space Year Committee also agreed to join other organizations in sponsoring the European International Space Year Conference on "Space in the service of the changing Earth", to be held at Munich in March and April 1992. There will be a major emphasis on subjects related to International Space Year at the forty-second IAF Congress, in Montreal, and particularly at the forty-third IAF Congress, in Washington.

Let me now recall a few facts relating to legal aspects of space activities. Since the emergence of international space law, the IAF has been encouraging the progressive development of such law and promoting international cooperation in that field. The colloquiums on outer space law

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held by the International Institute of Space Law within the scope of IAF Congresses deal every year with a number of topics and put forward a wealth of ideas, suggestions and comments relating to different issues of the progressive development of space law. Papers presented at these colloquiums also contribute to the growth of space-law doctrine.

I want to inform the Committee that the International Institute of Space Law is now led by Judge Manfred Lachs, former President of the International Court of Justice and the first chairman of the Legal Subcommittee. He was elected last year as the Institute's new President as successor to Professor Isabella Diederiks-Verschoor, who successfully guided the Institute's work for 17 years.

At meetings of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space, the International Institute of Space Law offers special programmes on selected topics for the benefit of all delegations. This year, at the thirtieth session of the Legal Subcommittee, the programme was devoted to assessing the space insurance field.

On this subject, it should also be recalled that in 1987 the Institute established the Standing Committee on the Status of International Agreements Relating to Activities in Outer Space. That Committee, composed of scholars and experts from different countries, produces annual reports on the status of treaties of general scope and applicability, charters of international organizations and regional agreements - 15 instruments in all. Those reports provide the most complete survey of the state of signatures, ratifications, accessions and declarations of acceptance of multilateral space agreements in force.

Last but not least, the roundtables organized by the Scientific-Legal Liaison Committee, a joint body of the International Academy of Astronautics

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and the International Institute of Space Law, on specific issues of common concern to experts in space science, technology and law may play a similar subsidiary role in the process of developing the international law of outer space. They bring to the attention of the Committee on the Peaceful Uses of Outer Space ideas on topics which may sooner or later deserve consideration by both Subcommittees of the Committee. During the period 1990-1992, those roundtables dealt or will deal with the following topics: scientific and legal aspects of managing space debris - Dresden, 1990; and exploration and uses of celestial bodies - Washington, D.C., 1992.

Thus, in all its endeavours the IAF desires to contribute to broad international cooperation in the scientific and legal aspects of the exploration of outer space for peaceful purposes and to assist the United Nations in developing international cooperation in outer space activities for the benefit of all nations.

Mr. GONZALEZ (Chile) (interpretation from Spanish): I wish to make some comments in the light of the important statements made today.

First, my delegation listened with great attention to the statement made by the representative of Mexico. Like him, we attach great importance to finding an immediate solution to, and breaking the impasse on, the problem of nuclear power sources in outer space. While this is an item allocated to the Legal Subcommittee, the thoughts expressed by the representative of Mexico prompt us to state that it would be a good idea if the Committee and its subsidiary bodies could adopt a new set of principles that keep abreast of the progressive development of outer space law.

The representative of Mexico also stated that this item could be replaced by the item on space debris and, in general, questions linked to the preservation of the environment. My delegation shares that concern most particularly because we believe that the question of the environment is acquiring ever greater relevance and because the most effective tool for detecting and combatting the phenomena harmful to the environment is certainly space technology.

On the other hand, we listened carefully and respectfully to Mr. Kopal, for whom, both in his individual capacity and in his capacity as the representative of his organization, we have the greatest intellectual and personal respect. In his statement he told us that the question of space debris had been considered at one of the meetings he had mentioned - the one held in Washington. I would recall also that some years ago in the Scientific and Technical Subcommittee a representative of the Holy See spoke of this item as one that could be debated in the full Committee.

(Mr. Gonzalez, Chile)

We therefore feel that a consensus is emerging on the need to tackle an item that is acquiring growing importance and interest not only in the political but also in the academic, intellectual and technical spheres.

We listened with great satisfaction to the statements by the representative of Mexico and Mr. Kopal. That was the first point I wished to make very clearly.

But I would also take this opportunity to thank Mr. Abiodun very warmly for his very complete statement this morning on the effective work the Space Applications Programme has been able to do, despite financial restraints. In guiding the work of the Programme Mr. Abiodun has been assisted by a fine staff. This is clearly a Programme designed to meet the needs of the developing countries; we therefore feel that the Programme deserves ongoing support, and we are prepared to provide all the support we can. Specifically, we think that to be truly successful the activities for International Space Year require financial support from international organizations in addition to voluntary contributions.

Linked to this subject closely, though perhaps not so obviously, is a statement my delegation made on behalf of the Minister for Foreign Affairs of Chile on the convening next year in Chile of the second Space Conference of the Americas. The decision to host the conference was taken, as I said, at the highest political level, and we hope to have the support, also at an important level, of all the countries involved and of the international organizations connected with the issue. Hence, I take this opportunity to state before the plenary Committee very clearly that it is important for the Space Applications Programme to play a direct and major role in that conference. Through you, Mr. Chairman, we would ask the Expert on Space

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Applications how he would view participation in and support for such a conference, taking into account his great experience in this area.

The CHAIRMAN: I call on the Expert on Space Applications.

Mr. ABIODUN (Expert on Space Applications): As members know, in the second edition of the guidebook for the participation by the United Nations in International Space Year it is indicated that Indonesia and the Economic Commission for Africa (ECA) have requested us to focus on regional cooperation in the area of space science and technology. As we reported last year and the year before, we also assisted the Government of Costa Rica in organizing the conference for Latin American countries held in Costa Rica.

Reflecting on the objectives of the First and Second United Nations Conferences on the Exploration and Peaceful Uses of Outer Space, held respectively in 1968 and 1982, we can see clearly that one of the main aims of establishing the Space Applications Programme was to assist all Member States in achieving a measure of capability and knowledge in this technology. One of the elements of the recommendations of the Second Conference (UNISPACE 82) was that, through the Space Applications Programme, we promote cooperation between developed and developing countries, as well as among developing countries.

Accordingly, I think the Outer Space Affairs Division through the Space Applications Programme would be very happy to assist the Latin American countries in carrying out the programme being proposed by Chile once its objectives are clearly defined.

The CHAIRMAN: We shall continue debate on agenda items 7 and 9 tomorrow morning.

WAYS AND MEANS OF MAINTAINING OUTER SPACE FOR PEACEFUL PURPOSES (continued)

The CHAIRMAN: We will now return to our consideration of agenda item 6, and I call first upon the representative of the Soviet Union - peacefully, of course.

Mr. MAIORSKI (Union of Soviet Socialist Republics)(interpretation from Russian): I thank you, Mr. Chairman for your generosity and also for your counsel. You can rest assured that the intentions of the Soviet delegation are peaceful, and nothing but.

We are speaking for the second time on this agenda item because of the impression left by statements made at this morning's meeting, for example by the representatives of Argentina and Australia; of course we were very impressed by the witty and elegant statement of the latter. She spoke very swiftly, which may have caused difficulties to the interpreters, but we were nevertheless very impressed. We fully agree with her that events should develop naturally; the natural way of doing things is a beautiful and wondrous thing, just as simplicity, about which Leo Tolstoy said that it is a necessary condition of the wonderful.

I wonder, however, if we can accept as natural that the subject of the overview of the principles of international law on the military use of space and the prevention of an arms race in outer space should be considered only by the Conference on Disarmament, despite the fact that those principles and norms as they exist today were first formulated here in the Committee on the Peaceful Uses of Outer Space. If we are to face facts and forbid the deployment of nuclear weapons in Earth orbit and ban the deployment of weapons on celestial bodies, following norms and standards worked out by the Committee, one must nevertheless note, sadly, that the Legal Subcommittee has

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not gone very far beyond those principles, save for limiting certain types of missiles in space.

In passing, I would also note that at the time we were working out these norms and principles the need arose to distinguish between a "space object" and an "object in space," and that that distinction was also worked out and discussed without the Committee's participation.

Can we also view as normal a situation in which a suggested revision of the Convention on Registration of Objects Launched into Outer Space, one not directly related to issues of disarmament and preventing an arms race, should be a subject for discussion solely within the Conference on Disarmament? Several years ago the General Assembly undertook to review the work done under the Convention and decided that it should not be revised, and it adopted a resolution in that connection. Here, too, with regard to this useful work, which also relates to peace and to all objects and not solely military objects, the United Nations Committee on the Peaceful Uses of Outer Space does not participate in it and has not been informed on the work done.

I do not think we can view as normal the working out of rules of comportment in outer space being a subject reserved solely to the Conference on Disarmament, given the fact that 15 years ago the idea was put forward by Dr. Perek, the then Director of the Outer Space Affairs Division, that outer space should be preserved for peaceful purposes, even though it was not acted upon.

As for the points related to confidence-building measures in space, they too are discussed in the Conference on Disarmament even though some of the proposals submitted there deal with such questions as the safe distance between space objects. I think that that is a technical issue that should be

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considered by the Committee's Scientific and Technical Subcommittee, which exists for that purpose.

Therefore, when we speak of the "natural" development of things - and we are indeed in favour of this - we believe that at the very least natural development should consist in allowing the United Nations Committee on the Peaceful Uses of Outer Space, without prejudice to the mandate of the Conference on Disarmament, to be informed about all issues dealing with priority items on the agenda.

The opinion of the Committee, as the focal point of the United Nations family dealing with questions of outer space, should be obtained. It is not difficult to ask the Secretariat to furnish information and to request the Legal Subcommittee to put the item on its agenda and then present its competent opinion. We are, after all, the most qualified group on the subject in existence, and our opinion should be available to the Conference on Disarmament. Let us not merely try to share our glory but, rather, in as constructive a manner as possible, let us build bridges between our two bodies. I am sure that if we can establish creative cooperation with the Conference on Disarmament, at least on issues dealing with the priority item on the agenda, we will be able to stop trying to break through a wall that should not exist in the first place and that is surely unnecessary, but which is growing thicker day by day. If such a creative cooperation with the Conference on Disarmament can be achieved, issues would become much clearer, especially with regard to what the Committee, following its mandate, can do with regard to the priority item on its agenda.

I should like to address all present in the most constructive and peaceful manner and make the following suggestion: let us try to include in

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our report containing the consensus opinion on our discussions a statement something like the following: "In view of the need to create a continuous working interaction with the Conference on Disarmament," and here the Rapporteur might quote in its entirety the famous section of the resolution and then go on to state that the Committee acknowledges and respects that resolution, certainly does not want to impinge upon the integrity of the Conference on Disarmament and does not want to contradict the resolution, but that it merely wants to make another step forward and ensure that the two important bodies can work together and complement each other.

(Mr. Maiorski, USSR)

Such a statement could also provide you, Mr. Chairman, with an opportunity to approach the Chairman of the Conference on Disarmament, perhaps beginning with a simple exchange of information. In this connection it might also be a good idea to follow up on the suggestion made by the representative of Argentina, namely, that the Chairman of the Committee attend the Conference on Disarmament and the Chairman of the Conference's Ad Hoc Committee that deals with outer space affairs attend our sessions. That kind of interaction is a necessary and natural corollary of what has emerged from statements made at this session. Out of a feeling of mutual respect, let us try to take this step within the framework of our report.

Mr. BOYER (France)(interpretation from French): I have followed very closely the statement of the representative of the Soviet Union. Like all delegations, I follow everything said on this subject closely, and particularly statements by the representative of the Soviet Union, even when I do not agree with what has been said.

At the present time, I should like merely to express reservations with regard to a particular point raised by the representative of the Soviet Union, namely, the possibility of reaching a consensus, with the help of the Rapporteur, on the need for contact between the Committee and the Conference on Disarmament. I feel it is necessary to speak now so as to avoid any future misunderstandings and disagreements.

I am sure that representatives to the Conference on Disarmament are very carefully selected by the States concerned. As far as my French colleagues are concerned, the selection is made by our Government with particular care. The French delegation to the Conference on Disarmament is perfectly well prepared to deal with the problems that confront it there. Its members have

(Mr. Boyer, France)

the appropriate skills and the appropriate openness of mind, and I personally do not know what I myself could bring, as head of the French delegation to the Committee, to my colleagues who have the honour of representing France at the Conference on Disarmament.

When listening to these kinds of debates I always get the impression that the Conference on Disarmament is a body with only one arm, and that if it is ever to work properly it will need another arm - that is, this Committee. I do not think that is the case, and I think we should trust the Conference on Disarmament and our colleagues who are representatives to it to deal with the issues before them - which they are perfectly competent to do.

I would add that the Conference on Disarmament is a United Nations body, and I think it rather strange for us to be maintaining that that body, created under the auspices of the United Nations, should be viewed as incapable of dealing with the problems entrusted to it.

The CHAIRMAN: I should like to draw the Committee's attention to the fact that we are not yet at the stage of discussing reports. I should respectfully like to request colleagues to take that into account when making their statements.

Mr. MAIORSKI (Union of Soviet Socialist Republics)(interpretation from Russian): I want to thank the representative of France for his frankness and assure him that we, too, follow everything said by his delegation with great attention, especially when it concerns a statement made by the Soviet delegation. I should like to reassure him and to tell him that we too respect the Conference on Disarmament and that we, like the French delegation, are very much impressed by the major advances made by the Conference in

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discussing the issue of preventing an arms race in outer space. If those advances continue to be made on the same scale as has been the case hitherto, I fear that we shall find ourselves - the same and here I refer to the anecdote cited by the Australian representative - in the situation of a person lying on a smoking mattress who would not only not call the fire department but would refuse even to get up.

Mr. ZAWELS (Argentina)(interpretation from Spanish): I do not wish to prolong the debate, but it would seem that some prior speakers who have - either directly or indirectly - referred to the statement I made this morning may have misunderstood us. It appears that they see certain problems or dangers in having two United Nations bodies, in which some of the participating delegations are the same, exchanging supplementary information.

My delegation has participated actively in both the Committee on the Peaceful Uses of Outer Space and the Ad Hoc Committee, and we have always felt that an exchange of information would be useful. That does not mean that the work of the two bodies overlaps. On the contrary, it is precisely because it does not, and also in order to guide the activities of the two bodies, that it would be a good idea to have information. As I said this morning, this does not have to be official information; it could be unofficial or could be provided to the chairman of each of the bodies. I hope I have made clear the idea I was expressing this morning.

Mr. MATUS (Chile)(interpretation from Spanish): Very briefly and very simply, I wish formally to support the proposal made by the representative of Argentina this morning. What we want, specifically, is that there should be no duplication in the work of the two entities that are

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dealing with the same item in this field. We feel that the proposal of the Argentine delegation would indeed avoid duplication of work. We think that a sharing of information would lessen the possibility of such duplication.

Mr. LOWELL (United States of America): Just very briefly, I should like to say that, like the representative of France, we do not think that this is going to be a very productive area for discussion or provide a basis for consensus.

It seems to me we have discussed this area several times in the past and have not come close to any kind of meeting of the minds because of the underlying difference of view on the roles of the Conference on Disarmament and the Committee. I say this merely to reiterate the United States view in this respect.

The CHAIRMAN: We have now concluded our discussion on agenda item 6.

ORGANIZATION OF WORK

The CHAIRMAN: Tomorrow, we shall continue our discussions of agenda items 7 and 9 and, after the list of speakers on those items has been exhausted, I hope to provide time for those who wish to speak on agenda item 10, "Spin-off benefits of space technology: review of current status," since it is my understanding that some of the experts on that item may not be here next week.

The meeting rose at 4.15 p.m.

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Chairman: Mr. HOHENFELLNER (Austria)

- Report of the Scientific and Technical Subcommittee on the work of its twenty-eighth session (continued)
- Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (continued)
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In the absence of the Chairman, Mr. Munteanu (Romania), Vice-Chairman, took the Chair.

The meeting was called to order at 10.45 a.m.

REPORT OF THE SCIENTIFIC AND TECHNICAL SUBCOMMITTEE ON THE WORK OF ITS TWENTY-EIGHTH SESSION (A/AC.105/483) (continued)

IMPLEMENTATION OF THE RECOMMENDATIONS OF THE SECOND UNITED NATIONS CONFERENCE ON THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE (continued)

Mr. ABDEL MONEIM (Egypt) (interpretation from Arabic): My delegation has carefully studied the report of the Scientific and Technical Subcommittee (A/AC.105/483) under agenda item 7 and other relevant documents submitted under that item and agenda item 9, "Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space".

We pay a tribute to the Scientific and Technical Subcommittee, under the chairmanship of Mr. John Carver, for the progress it achieved in its many diverse activities. Those activities are clearly enumerated in the comprehensive report before the Committee and in other documents of no less benefit to Members of the United Nations. We wish also to praise the report of the Working Group of the Whole, under the chairmanship of Mr. Muhammad Nasim Shah of Pakistan.

While agreeing with the recommendations set out in the Subcommittee's report, my delegation wants to comment on certain aspects of that report.

First, with regard to the Space Applications Programme, the coordination of space activities within the United Nations system, and the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82), we draw the Committee's attention to paragraph 25 of the report, which states that the limited resources of the

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United Nations should be focused on the highest priority activities and notes that the Programme on Space Applications is the priority activity of the Outer Space Affairs Division.

We fully agree with that paragraph and hope it will be possible to secure more funding for the Programme on Space Applications, which is the only programme by which many developing countries can benefit from progress in the peaceful uses of outer space.

(Mr. Abdel Moneim, Egypt)

Second, we believe it necessary to expand the scope of the advisory services furnished to Member States by the Outer Space Affairs Division. In this context, we hail the Division for its cooperation with the European Space Agency (ESA) in surveying possible sites for the reception of remote sensing satellite data; those sites would be in African countries within range of ESA ground stations. We hope all African countries can be covered eventually, including those beyond the range of ESA ground stations if possible.

Third, we note that the workshops, training courses and meetings of experts scheduled for 1991 are diverse within their focus on peaceful uses of outer space linked directly to economic development and to practical developments in scientific research in various countries. I take particular note of the regional workshop to be held in Beijing in September this year on the application of space techniques to combat natural disasters. This is an important question of some urgency, and we believe it should be tackled at the interregional level, particularly in the light of the destructive cyclone that recently struck Bangladesh and the burning oil fields in certain areas, taking into special account the impact of such disasters on marine life and climate in the affected regions.

Fourth, we note that the 1992 schedule includes a training course, to be held in Nairobi, on the applications of remote sensing in agrometeorological and hydrological studies. This is of great importance to Africa, particularly in connection with transboundary fluctuations in the quantities of river water.

There is another important issue relevant to the work of the Committee. We would have liked the Programme to include a technical workshop with the participation of the International Atomic Energy Agency (IAEA) to examine matters connected to the use of nuclear power sources in outer space, such as

(Mr. Abdel Moneim, Egypt)

as protection from radiation, since the question of nuclear power sources remains on the agenda of our two Subcommittees.

Fifth, we welcome the report's reference in paragraph 36 to regional data banks. We believe such data banks could be effective in providing information on space technology on a non-discriminatory basis to all countries, particularly developing countries. In this connection we hope that member countries that are advanced in the field of space technology will help in the implementation of this idea by supplying relevant data.

Sixth, we support the establishment of regional centres for space science and technology education, as referred to in paragraph 43 of the report and as endorsed by the General Assembly in resolution 45/72. While fully concurring with yesterday's statement by Mr. Abiodun, the Expert on Space Applications, we would like Cairo to be headquarters of the regional centre for our region. That would enable us to make available to the centre the wealth of knowledge of Egyptian scientists, and their training capabilities and experience in both the African and the Arab contexts, all in the interest of the peoples of the region. We are ready to discuss this with the Secretariat and the members concerned during this session, not only with respect to the proposed regional centre but also with respect to general preparations for establishing such regional centres.

Seventh, with respect to matters relating to remote sensing, of the Earth by satellites, inter alia, applications for developing countries, we support the contents of section III of the report, paragraphs 46 to 53. We stress that the outlook for the implementation of General Assembly resolution 41/65 of 3 December 1986, by which the Assembly adopted the Principles Relating to Remote Sensing of the Earth from Outer Space, could be complicated, and should

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be reflected in integrated, applicable formulas. The experts at Cairo's remote sensing centre are prepared to contribute to, and to benefit from, United Nations efforts in this area. Also, remote sensing programmes should be steadily expanded, in terms of the number of both participating countries and specialized agencies making use of remote sensing applications in the interests of their member States. Remote sensing data should be made available to developing countries without discrimination and without giving priority to commercial factors at the expense of international cooperation in this important field.

(Mr. Abdel Moneim, Egypt)

We agree on the importance of devoting special attention to space activities relevant to the environment, as stressed in section VIII of the report, paragraphs 82 to 88. Clearly, however, it is necessary to attach equal importance to such subjects as space medicine, exploration, astronomy, to name but a few.

On environmental questions, we want to make reference to the working paper submitted at this session by Poland (A/AC.105/L.190) and affirm that the Egyptian delegation will give it thorough consideration.

We hope the points just set out by the Egyptian delegation will be reflected in the report of the Committee and will thus have an impact on the relevant resolutions to be adopted by the General Assembly at its forty-sixth session.

Mr. FUJITA (Brazil): First of all, my delegation would like to thank Mr. Abiodun, the Expert on Space Applications, for the comprehensive statement he made yesterday. My delegation wishes to pay a tribute to him and to Mr. Jasentuliyana for the admirable way they have been carrying out their tasks in the field of outer space, as mandated by the Committee on the Peaceful Uses of Outer Space and by the General Assembly, despite the constraints imposed by the meagre resources at their disposal.

In that regard, it is of particular importance to recall and renew our commitment to international cooperation in the field of outer space. For its part, Brazil, in spite of the serious predicament it is currently facing, continues to give high priority to its cooperation with the United Nations Space Applications Programme, as was indicated in the report of the Scientific and Technical Subcommittee and in the statement of the Expert on Space Applications.

(Mr. Fujita, Brazil)

Our National Institute for Space Research (INPE) continued throughout the period 1990-1991 to offer long-term fellowships and short-term training courses as well as workshops on topics in the area of microwave remote sensing technology, in cooperation with the United Nations and other entities such as the Food and Agriculture Organization of the United Nations (FAO) and the European Space Agency (ESA), to candidates from other developing countries, especially from Latin America and Africa. My Government is renewing those offers for 1992 through the Space Applications Programme and other appropriate channels.

In that connection, my delegation cannot but note with disappointment and concern the limited response by Member States to the appeal made by the General Assembly to make contributions to the activities of the Programme. That situation is even more paradoxical when we note that Brazil, which is a developing country, is responsible for a sizeable share of the fellowships offered through the Programme. We therefore renew the call to all States, especially those with more advanced space and financial capabilities, to enhance their participation in and support for the Programme.

For its part, Brazil remains deeply committed to actively promoting international cooperation on the peaceful uses of outer space through an active exchange of its experience and know-how with other interested countries. In this regard we are prepared to offer our space facilities and experience to host a United Nations regional centre for education in space science and technology with a view to promoting the diffusion of the benefits of space applications to an ever-wider group of recipients.

(Mr. Fujita, Brazil)

As host to the 1992 United Nations Conference on Environment and Development (UNCED), Brazil welcomes the fact that the main theme for International Space Year, to be observed in that same year - "Mission to Planet Earth" - has as one of its main thrusts the application of space science and technology to the monitoring of the Earth's environment. It is highly relevant to recall in this respect paragraph 20 of General Assembly resolution 45/72, which

> "Endorses the recommendation of the Scientific and Technical Subcommittee that Member States, in planning their activities for International Space Year, consider ways in which those activities could complement the efforts under way for the United Nations Conference on Environment and Development". (General Assembly resolution 45/72, para. 20)

Brazil encourages the Secretariat to continue to inform the secretariat of UNCED on matters relating to the activities of the Committee on the Peaceful Uses of Outer Space that are of relevance to the Conference.

We also note that, besides UNCED and International Space Year in 1992 there are plans to convene a second session of the Space Conference of the Americas. My delegation thanks the delegation of Chile for its kind invitation, and will be studying with due attention - as we always do with initiatives presented by that country - the scope and content of the proposed event as soon as we receive further details, together with a thorough evaluation of the first conference. We deem it important in that regard not to lose sight of the urgency of strengthening existing mechanisms and forums with universal participation within the United Nations system with a view to ensuring the widest possible contributions by all States, those with the most advanced space capabilities as well as those seeking space cooperation.

(Mr. Fujita, Brazil)

The progress observed in cooperation in the International Geosphere-Biosphere Programme is also a relevant aspect of space activities related to the environment. As a country that today has one of the largest national programmes of forest monitoring, Brazil has a great interest in the important contribution that remote sensing satellites can make to the study of the Earth's environment with a view to reducing uncertainties in data extraction and models relating to changes in the Earth's environment, so as to offer a solid contribution to the work of the 1992 United Nations Conference on Environment and Development.

My delegation wishes to refer now to paragraphs 21 to 23 of General Assembly resolution 45/72, in which it is recommended that more attention be paid to all aspects related to the protection and preservation of the outer space environment, especially those potentially affecting the Earth's environment, and in which special attention is drawn to the question of space debris. In this connection, we fully agree that space debris could be an appropriate subject for discussion in the Committee, and support mandating the Scientific and Technical Subcommittee to consider the question at its next session.

(Mr. Fujita, Brazil)

We also note that the Scientific and Technical Subcommittee agreed that further studies should be conducted on the problem of the collision of nuclear-power sources with space debris. This coincides entirely with my delegation's concern for protecting the space and Earth environments, as mentioned in paragraph 21 of resolution 45/72.

As to nuclear-power sources themselves, my delegation also agrees with the recommendation of the Subcommittee that the item be retained on its agenda for the next session. The elements in support of retention are: First, it is appropriate to keep the item under consideration in view of the fact that principle 12 of the draft principles foresees the need for constant study and revision of all the principles concerning nuclear-power sources. Secondly, a study in this context of the question of nuclear-power sources and space debris is already timely. Thirdly, the item on remote sensing provides a precedent for such retention.

Incidentally, my delegation took note with interest of document A/AC.105/L.190, a working paper submitted by Poland on a report on the protection and preservation of the outer space environment, especially activities potentially affecting the Earth environment. We believe that the matter might deserve further consideration.

Still on the items recommended for the agenda of the twenty-ninth session of the Subcommittee, my delegation would like to stress the relevance it attributes to the theme fixed for special attention at the 1992 session of the Subcommittee, namely, "Space technology and the protection of the Earth environment: development of endogenous capabilities, in particular in the developing countries and in the context of International Space Year". We feel that this theme is thoroughly appropriate for study in the year that the United Nations Conference on Environment and Development is being held - 1992.

(Mr. Fujita, Brazil)

Finally, I should like to say a word on the method of work and the mandate of the Scientific and Technical Subcommittee. Despite its name, the Scientific and Technical Subcommittee is primarily an intergovernmental body composed of representatives of States, with the objective of discussing policies and guidelines for international cooperation in space activities and of providing agreed technical parameters as a contribution to the development of international space law. It is, in this respect, important to strengthen the scientific and technical content of the Subcommittee's work in line with the purposes and mandate of that intergovernmental body. In this respect, scientific and technical presentations should be made in the light of the relevance of their contents to the Subcommittee's consideration of items on the agenda.

My delegation suggests in this regard that the selection of scientific and technical themes for special presentations be examined in a two-stage approach. The first stage would be the proposal of the theme, the examination of its relevance and timeliness, and an appraisal of the framework of the presentation. The second stage would be the examination and approval of the project for development of the theme. These two stages might cover two years.

With such a previous examination by the Subcommittee, the scientific and technical presentations will gain in the relevance of their themes and in the consistency of their contents for the substantive work of the Subcommittee. Thus, they would enhance both the scientific and technological quality and the intergovernmental nature of that United Nations body.

Ms. ZHENG Lizhong (China) (interpretation from Chinese): The Chinese delegation would like through you, Sir, to pay a tribute to Mr. Carver, Chairman of the Scientific and Technical Subcommittee, and to express its appreciation for the fact that, under his guidance, the

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Subcommittee carried out very fruitful work and made good progress at its twenty-eighth session.

The Chinese delegation sets a high value on the achievements of the relevant United Nations bodies since the Second United Nations Conference on the Exploration and Peacful Uses of Outer Space (UNISPACE 82) in promoting the Programme on Space Applications. The activities undertaken under the Programme, such as in-depth training, technical advisory services, seminars, workshops and expert meetings, are of vital importance for spreading the technology of space applications to the developing countries, raising their level of application, training their scientists and technical personnel, and promoting exchanges and cooperation among countries in space science and technology.

The activities carried out in 1991 in the context of the Space Applications Programme include, inter alia, the holding of five training courses in such areas as remote sensing and satellite communications, and the provision of 39 long-term fellowships by relevant States and international organizations to trainees from developing countries. Eight outstanding young Chinese scientists engaged in space applications were also selected by the Programme. They are now studying at the relevant institutes associated with the European Space Agency (ESA) in the Netherlands and Germany, and also in the Soviet Union. When they return home after their studies, they will necessarily give an impetus to China's work on space applications.

The Chinese Government has always actively supported the implementation of the Programme on Space Applications. Evidence of this support is China's

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offer to host an international workshop in Beijing from 23 to 27 September 1991 on the application of space technology in combatting such natural disasters as flood, forest fires and hurricanes. This workshop will be jointly sponsored by the Chinese Government, the United Nations Outer Space Affairs Division, and the Regional Remote Sensing Programme of the Economic and Social Commission for Asia and the Pacific. Thirty-five representatives from developing and developed countries will be invited to the workshop, for which the preparatory work is already under way. We shall warmly welcome experts and representatives of various countries to this workshop. We hope that through academic exchanges the capability of combatting natural disasters through the application of space technology will be enhanced.

In 1991 China has offered two one-year fellowships for the Programme on Space Applications. In 1992 China will continue to offer two one-year fellowships as its contribution in kind to the Programme. These latter two fellowships will be for training in satellite geodesy and remote-sensing cartography at Wu Han Technical University of Survey and Mapping.

Remote sensing of the Earth by satellite, including applications for developing countries, is a very important subject. We are happy to note that on 21 January 1991 France's SPOT-2 satellite was launched into outer space by an Ariane launcher. Launchings of SPOT-3 and SPOT-4 are also being planned. Japan has launched its MOS-1B satellite into its fixed orbit by an H-1 rocket. ESA's ERS-1 will be launched soon.

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These activities will provide humanity with more information on space and satellite remote sensing. On the other hand, we have noted with great concern the rising costs of remote-sensing information in recent years. This will seriously affect the developing countries in their use of remote-sensing technology for solving a series of problems associated with the monitoring of resoures, the environment and disasters. We therefore wish particularly to emphasize the importance of States with remote-sensing capabilities making remote-sensing data available to all countries, particularly developing countries, at reasonable cost and in a timely manner. At the same time, efforts should be made to ensure the continuity and compatibilty of future remote-sensing technology systems.

In view of the major role played by meteorological satellites in the application of remote sensing, we support the view that States should continue to be allowed to receive data from operational meteorological satellites free of charge. It is in this spirit that China launched its meteorological satellite and provides data freely to the world. We endorse the recommendation that the subject of remote sensing of the Earth by satellite, including applications in developing countries, be retained as a priority item on the agenda of the Subcommittee's next session.

The General Assembly, at its forty-fourth session, approved the designation of 1992 as International Space Year, to which various countries and the relevant United Nations bodies attach great importance. China will also organize a series of activities for the Year, including, first, an international exhibition on disaster prevention and relief technology and equipment. This exhibition, the first of its kind, will be held in Beijing from 18 to 22 September 1991. Secondly, a seminar on flood-disaster evaluation and wetland development will be held in China's Hunan Province from

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17 to 21 September 1991, with the joint sponsorship of China's National Remote Sensing Centre and the International Development Research Center of Canada. Thirdly, an international workshop on application of space technology in combating natural disasters will be held in Beijing from 23 to 27 September 1991, jointly sponsored by the State Science and Technology Committee of China, the United Nations Outer Space Affairs Division, and the Regional Remote Sensing Programme of the Economic and Social Commission for Asia and the Pacific. Fourthly, a seminar on Earth science will be held in Beijing during February and March 1991. Fifthly, an international symposium on the economic benefits of space activities will also be held in Beijing in October 1992, jointly sponsored by the Chinese Society of Astronautics and the International Academy of Astronautics.

The activities just listed are only part of China's activities for International Space Year. China will also actively support all the United Nations efforts for the Year and will participate in various international cooperation projects, such as on global change, diminishing global forest resources, the ozone hole, sea ice, an electronics encyclopedia, and the compilation of drawings and charts on global changes. I would like specifically to mention a brochure on China's activities for the Year that is available to members at the entrance to this room.

In response to requests from various United Nations bodies, we are at the moment putting together a selection of compositions written by middle-school students on the International Space Year theme, "My vision of outer space and the promise it holds for my country and humanity". We will also participate in the exhibition "The Home Planet" to be held at United Nations Headquarters. We would like to work with all other countries through the ISY activities with a view to intensifying international cooperation in space

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science and technology. Moreover, given its level of development in space science and technology, China would like to host the proposed Centre for Space Science and Technology Education for the Asian and Pacific region. For that matter, we would like to undertake more obligations in terms of financial and human resources so as to contribute to the development of space science and technology in the ESCAP region.

A special theme for the 1991 session of the Scientific and Technical Subcommittee is the applications of airborne and satellite remote sensing for prospecting mineral and groundwater resources and for monitoring and managing biological resources, with emphasis on agriculture, taking into particular account the needs of developing countries.

In this connection, the problems now plaguing the world - such as rapid population growth, shortage of resources and frequent natural disasters - have become very serious in some developing countries. In order to meet the need for reform and opening to the outside world in building the four modernizations, China has paid great attention to the utilization of advanced technologies, including remote sensing, for prospecting groundwater resources and mineral, oil and gas deposits. Considerable progress has been achieved in prospecting gold-mine resources in some areas of Xinjiang by using remote-sensing technology combined with conventional methods.

China attaches great importance to agriculture. In this regard, we have made good progress and received tangible economic benefits in using remote sensing and other modern methods for regional planning, crop-yield estimation and forecasting and monitoring insect pests. For example, China has conducted a survey with remote-sensing technology on the poor loess plateau that covers an area of 500,000 square kilometers with a population of 80 million. Proposals for the integrated development and management of this plateau have

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been put forward that would serve as a basis for scientific decision-making and contribute to the elimination of the region's poverty and backwardness.

We welcome the decision to set for the Subcommittee's 1992 session the special theme "Space technology and the protection of the Earth's environment: development of endogenous capabilities, in particular in the developing countries and in the context of International Space Year". The Earth's environment is the major factor in the continued existence of humanity. In recent years, however, serious air pollution, caused by rapid population growth and industrial activity, frequent natural disasters and the problems of deforestation, soil erosion and desertification, among others, have caused a serious detioration of the Earth's environment and threatened the existence of humanity and its social and economic development.

In the arid and semi-arid areas of northern China alone, more than 1.5 million square kilometres of land have been devastated by drifting sand. Over the past five years, the irrational development and use of land have resulted in the desertification of an additional 50,000 square kilometres of land. At present, 59 million mu of farmland, 400 million mu of grassland and 2,000 kilometres of railways are affected by drifting sand. China's annual loss from natural disasters is estimated at 600 million RMB yuan. Disasters such as mud and rock slides and slope disintegration disrupt railway operations for 5,000 hours each year, for a loss of 200 million yuan.

Thus, China attaches great importance to the application of such space technologies as remote sensing and satellite communications for surveying land resources, monitoring air pollution, forecasting and evaluating natural disasters, and investigating forest resources. Over the past few years, by

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using satellite remote-sensing images and conventional data, we have completed the compilation of maps at a scale of 1:1,000,000 of our land utilization, land resources and grassland resources. We have also drawn a map at a scale of 1:4,000,000 on the distribution of deserts in northern China. Our departments of water resources made an investigation of the soil-erosion situation and produced maps of river-flow patterns at a scale of 1:500,000 and established relevant data bases.

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Since 1988, China has carried out experiments on the application of remote sensing for flood control, and has set up an airborne remote-sensing and real-time monitoring system through an integrated application of remote-sensing satellite communication, a geographical information system and other technologies. On short-term earthquake predictions, gratifying results have been achieved through the use of satellite thermal infrared information.

The Chinese Government has made the protection of the environment one of its basic policies, and it also welcomes the "Mission to Planet Earth" programme, the main task of which is to protect and improve the Earth's environment. On our part, we would like to participate in all efforts at international cooperation in the context of International Space Year, in order to protect and improve man's environment and to ensure the rational exploration of the Earth's resources and greater benefits for the developing countries from the applications of space technology.

The continued increase of space debris will affect the space and Earth environments and will constitute in particular a grave potential danger to mankind's space activities. We express our concern in this regard. In our view, it is imperative to improve the technology for monitoring space debris and to disseminate in a timely manner the data on space debris. Particularly important is to adopt measures to reduce the generation of space debris. In this regard, China is setting up some preliminary research on this and other related issues. We wish to strengthen international cooperation and exchanges in this field, and we agree to hold discussions on whether this issue should be included on the agenda of the next session of the Scientific and Technical Subcommittee.

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The Chinese Government attaches high importance to the development of satellite communications and the applications of satellite, television and broadcasting systems. Through the five communications satellites launched by China, and about 30,000 television ground receiving stations, a nationwide network of television educational and cultural exchanges was established. This network has played an important role in training approximately 1 million primary and middle-school teachers. So far, we have 7 operational television programmes, using one transponder for 30 channels. In the area of satellite communications, China's VSAT system is developing rapidly. About 300 special satellite-data communication systems have been built, servicing departments of the coal industry, railway transportation, civil aviation, water conservancy, earthquake prediction, banking businesses, news agencies, and so on. China is now developing a VSAT system with emphasis on audio communication.

In recent years, China has also constructed large satellite communications stations in cities of communication hubs, such as Guangzhou, Urumuqi, Shenyang and Shanghai. The establishment of these stations will help strengthen China's satellite-communication capability and improve communication conditions for special services and remote areas, and the ability for emergency communication with regions hit or about to be hit by natural disasters.

Much progress was also made in the application of space-positioning techniques. A geodesy control network has been established in the Nansha Islands using global positioning systems technology, which is also being used for observing continental drift and earthquake monitoring.

The year 1990 saw remarkable achievements in international development of space technologies and space exploration. China's space programme for 1990 was also successfully implemented. Last year, China launched its fifth

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operational communications satellite, a FY-1 meteorological satellite; the twelfth recoverable remote-sensing satellite, ASIA-1 communications satellite; and an experimental satellite for Pakistan. On the recoverable satellite, launched on 15 October 1990, 67 load microgravity experiments in regard to life science and material science, including the first animal experiment, were carried out.

In September 1990, two ballon satellites of 3 metres and 2.5 meters in diameter were launched into space orbit by an LM-4 rocket to study atmospheric density. In January last year, China successfully launched two sounding rockets at Hainan Island, injected to altitudes of 143 and 137 kilometers respectively, to study the physical attributes of airspace in regions of low latitude. In addition, China is accelerating its development of communication satellites with 24 transponders and of geostationary meteorological satellite. Research on Earth-resources satellites and disaster-monitoring satellites is also in progress.

While China pays great attention in its space activities to the development of technology for satellite applications, it attaches greater importance to the utilization of space technology for the promotion of social progress and economic development, so that such technologies may work for the benefit of mankind. We uphold the principle of independence and self-reliance, and at the same time wish to engage in broad cooperation with more countries and international organizations on a basis of equality and mutual benefit. We attach particular importance to South-South cooperation.

Before concluding, I wish to express my appreciation to Mr. Abiodun, the Expert on Space Applications, for his valuable work in promoting the Programme on Space Applications. The Chinese delegation is confident that under the

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wise guidance of the Chairman, and with the joint efforts of all representatives, this session will surely be a success.

Mr. POCAR (Italy): Since this is the first time that the Italian delegation has spoken during this session, I extend to Ambassador Hohenfellner our warmest congratulations on his election to the chairmanship of the Committee. His wide competence and experience, as well as his commitment to outer space matters, are the best guarantees for a wise and safe course for our work. We are sure that we will continue to be in good hands, as were in the past under the chairmanship of his predecessor, Ambassador Jankowitsch, to whom we extend our best wishes on his new appointment. I also wish to express our satisfaction at seeing you again, Sir, as Vice-Chairman and Mr. Perri as Rapporteur. Last but not least, I would like to express our appreciation and thanks to the Austrian authorities and the City of Graz for their hospitality during these days.

In commenting on the activities of the Scientific and Technical Subcommittee, we are pleased to note the satisfactory work it has carried out under the able chairmanship of Mr. Carver, particularly with regard to some important issues before it for consideration, such as those related to the United Nations Programme on Space Applications and to the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82).

(Mr. Pocar, Italy)

In this context, let me also express our appreciation to Mr. Abiodun, our Expert on Space Applications, for his comprehensive report and the informative statement he made yesterday.

As the General Assembly emphasized in its resolution 45/72, there is a manifest urgency to implement fully the recommendations of the 1982 Conference as soon as possible. Italy is aware of that urgency and has always attached the greatest importance to relevant activities in this field within the framework of international cooperation - both as a co-sponsor of international training courses on remote sensing that were held in Italy in past years, and more especially through the wide support Italy has given to the numerous programmes, training courses and workshops organized by the European Space Agency (ESA), in cooperation with the United Nations and its specialized agencies. We shall continue to support the enhancement of international cooperation in these areas, which is becoming increasingly valuable, especially for developing countries.

In connection with future activities aimed at the promotion of international cooperation and increased dissemination of information on the value of space technology, let me also mention Italy's active participation in programmes related to International Space Year 1992, both through the European Space Agency (ESA) and through the European Association for the International Space Year, in which Italy will play an important role and in which the Italian Space Agency, as well as other Italian bodies, is directly involved.

The protection of the environment has become a matter of increasing concern for mankind, and the role of space technology in this regard does not need to be further emphasized. We therefore note with satisfaction the work

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carried out by the Scientific and Technical Subcommittee with regard to national and international space activities related to the Earth's environment. However, we are also aware that environment is a global issue and that the protection of the Earth environment should go hand in hand with the preservation of the outer space environment. We therefore welcome the emphasis that General Assembly resolution 45/72 places on this matter and especially on the problem of space debris.

As our delegation has stressed on previous occasions, the challenge created by the phenomenon of space debris relates to the safe utilization of outer space and to the need to minimize the risks involved, and may also be connected with other issues under consideration in our Committee, including the use of nuclear power sources in outer space. We welcome the continuation of national research aimed at monitoring space debris and at reducing its generation. We think, too, that such national efforts and activities should be more closely followed by our Committee through its Scientific and Technical Subcommittee, as we are deeply convinced that the United Nations and its bodies are the appropriate forum for the consideration of issues such as those related to the environment whose solution requires world-wide international cooperation.

One of the main topics on the agenda of the Scientific and Technical Subcommittee has been for many years the use of nuclear power sources in outer space. The Italian delegation welcomed last year the agreement reached on scientific and technical criteria for the safe use of nuclear power sources in outer space and regards that agreement as a significant achievement in this area and an essential step in the consideration of this extremely important, indeed urgent, agenda item. We are fully confident that any further problem

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in this connection will soon find a solution through the spirit of cooperation shown so far by all delegations, so that a decision on the legal principles concerning the use of nuclear power sources in outer space can be adopted as soon as possible.

Mr. YATSKIV (Ukrainian Soviet Socialist Republic) (interpretation from Russian): On behalf of the Ukrainian delegation I should like once again to express our support for the decisions of the Scientific and Technical Subcommittee to which we have given a great deal of attention. The issues with regard to the study and exploration of space are now being increasingly developed and are expanding to practically all fields of human endeavour.

When studying the United Nations Programme on Space Applications we should keep in mind one specific point: as in many areas of science, space exploration is first and foremost of benefit to those States which have already achieved considerable results in this area. Space exploration is a very complex business, and because of this it cannot be put on the agenda of the economically lesser developed countries, which, to a degree, are dependent on the advances made by other countries in space technology.

This situation was discussed in depth in 1982 at the Second United Nations Conference on the Peaceful Uses of Outer Space (UNISPACE 82) where it was recommended that the best approach would be to intensify the exchange of information and experts. We support this recommendation. A very good example of the kind of exchange we have in mind is the unforgettable time when there was such international cooperation in the study of Halley's comet.

At the twentieth session of the Scientific and Technical Subcommittee the Ukrainian delegation submitted a proposal for implementation of an international project on the use of the results of global Earth observations

(Mr. Yatskiv, Ukrainian SSR)

from space in the interest of the world community. This joint project could be carried out using the Soviet space systems, such as OCEAN-O and ALMAZ-I; the Canadian space system, RADARSAT; the European Economic Community (EEC) system, ERS-1, and other spacecraft.

Among the aims of such a project could be, for example, first, the creation of an information system on the ecological, hydrometerological and ice situations in the Arctic and, secondly, the creation of a system of rainfall control in the tropics and a system to monitor the formation and development of tropical cyclones.

As was mentioned at the Subcommittee's session, the Ukrainian scientific and production bodies in such cities as Dnepropetrovsk and Kharkov are taking an active part in developing a programme for the remote sensing of the Earth and in perfecting and equipping spacecraft to carry it out. We should like to create in the city of Kharkov a regional centre for such a remote sensing programme. Bearing in mind that, within the framework of the Inter-Agency Consultative Group, the major space Powers are pooling their efforts to study solar terrestrial physics, we think it would be useful, under the auspices of the Committee on the Peaceful Uses of Outer Space, to give particular consideration to the implementation of the proposed international project, or a similar one, because this is of major importance for the planet Earth.

Mr. NOREEN (Sweden): May I begin, Sir, by extending through you my delegation's most sincere and heartfelt congratulations to Ambassador Hohenfellner upon his election as Chairman of this important Committee of the United Nations. As others have pointed out before me, it is a very natural choice that the Committee has made, given Ambassador Hohenfellner's strong interest and active role in the work of this Committee in the past. It, of course, also confirms the important role that Austria has played, and continues to play, in the Committee and its two Subcommittees. It is fitting that this election has taken place in the beautiful city of Graz, to which we are very happy to have been invited.

May I also on this occasion, through you, Sir, extend my country's deep appreciation and gratitude for Ambassador Jankowitsch's outstanding chairmanship of the Committee over the remarkable period of two decades. He led the work of the Committee not only in a very fair and efficient manner but also with a very clear sense of direction. His chairmanship again is further testimony to the instrumental role Austria has played in the work of the Committee and its two Subcommittees since its inception.

Having said that, Sir, we are of course also very happy to see you presiding over our work today.

Nine years ago Austria was the host of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82). As we all know, that Conference made a number of recommendations on how to strengthen international cooperation with regard to outer space. Documentation that has been prepared by the secretariat over the last year has clearly shown that the United Nations has made efforts to implement virtually all of the recommendations of UNISPACE 82 that were addressed to the United

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Nations. However, it is also clear that many recommendations have not been fully implemented because of the limited financial resources available to the United Nations.

At this year's session of the Scientific and Technical Subcommittee it was decided that the Subcommittee will make a comprehensive assessment of the implementation of the UNISPACE 82 recommendations at its next session based on background documentation prepared by the secretariat. We hope that this assessment will contribute constructively to the Subcommittee's consideration of the item on the implementation of the UNISPACE 82 recommendations.

One of the most important recommendations that UNISPACE 82 made was to strengthen the United Nations Space Applications Programme. The Space Applications Programme has been a very successful and well-administered part of the United Nations activities in the field of outer space. The Programme is only to a limited degree financed from the regular budget of the United Nations and is therefore dependent on a continued flow of voluntary funding.

At this year's session the Scientific and Technical Subcommittee again expressed its concern over the limited resources available for carrying out the Space Applications Programme and appealed to Member States to support the Programme through voluntary contributions. The role that the Programme will play in International Space Year makes it all the more important to ensure that the Programme has the necessary financial resources at its disposal.

As the Space Applications Expert, Mr. Abiodun, pointed out in his extensive statement yesterday, Sweden will next year host for the second time a United Nations training course on remote sensing education for educators. The training course will be made available to the Space Applications Programme

(Mr. Noreen, Sweden)

as a Swedish contribution to the activities of the United Nations during International Space Year.

Questions relating to space and Earth environment are attracting growing attention and concern. This is clearly reflected in last year's report of the Committee, in General Assembly resolution 45/72 on international cooperation in the peaceful uses of outer space, and in this year's report of the Scientific and Technical Subcommittee, which states that:

> "The Subcommittee noted that there was a need for further research concerning space debris, for the development of improved technology for monitoring space debris and for the compilation and dissemination of data on space debris. It also noted the importance of reducing the generation of space debris. It further noted the importance of international cooperation in addressing these issues." (A/AC.105/483, para. 107)

In this context, we note with interest the working paper A/AC.105/L.190 that has been submitted by Poland on the protection and preservation of the outer space environment. Studies that have been carried out on the issue of space debris stress that more knowledge is needed, particularly concerning reduced space debris. That is why we believe that this issue should be considered in a scientific and technical context. A better scientific and technical understanding of this problem is required, not only among the major spacefaring nations, but in the international community as a whole.

Sweden remains convinced that the most appropriate way to deal within the United Nations with the question of outer space environment is to inscribe the item on the agenda of the Scientific and Technical Subcommittee.

(Mr. Noreen, Sweden)

Sweden shares the view which was just expressed by the representative of Italy that the United Nations needs to follow more closely national research that is going on in relation to this matter. This would indeed be appropriate since the Scientific and Technical Subcommittee has recognized the need for the compilation and dissemination of data on space debris.

(Mr. Noreen, Sweden)

It is obvious that the problem of space debris cannot be solved by one or two nations alone. It requires, as the Scientific and Technical Subcommittee has said, international cooperation. Pollution of the space environment and the increasing risks of collision between space debris and spacecraft reduce the accessibility of space for all nations. That is why space debris is an issue of concern to the international community.

Mr. MENICOCCI (Argentina)(interpretation from Spanish): I should like to make a few comments on agenda item 7, "Report of the Scientific and Technical Subcommittee", for we feel that it plays an important role in developing research and promoting international cooperation in the peaceful use of outer space. The development of research and promotion of cooperation are the main pillars of Argentina's space programme, which is aimed at attaining a level of development that will enable us not only to have access to exploration in space but also to use the spin-off benefits of space research for the economic, social and cultural well-being of our people.

At its last session the Scientific and Technical Subcommittee continued to make progress in its substantive work, achieving some success, but not without disappointments. Among the latter we must point to the limited implementation of the recommendations of UNISPACE 82. UNISPACE 82 marked an important step in the activities of the Committee on the Peaceful Uses of Outer Space, and it should not be forgotten. We must do all we can to implement its recommendations, which stress the promotion of international cooperation in this field and are aimed at affording developing countries more opportunities to take effective advantage of the benefits of space achievements.

We are grateful for the interesting and exhaustive report submitted yesterday by Mr. Abiodun, the United Nations Expert on Space Applications. In

(Mr. Menicocci, Argentina)

this connection, we feel that the United Nations Space Applications Programme has excellent human resources and represents a potential source of development for countries with fewer resources and less-developed space technologies. However, in practice, we feel that the meagre financial resources provided the Programme hinder its fulfilling its specific functions, and we therefore agree with the need to increase those resources to ensure achievement of its objectives.

In this connection we note that the contributions made to the Programme are not in line with the technological and economic capabilities of the most advanced countries. For that reason Argentina has always insisted that nations with greater resources accept responsibility for promoting the conditions necessary to narrow the gap that separates them from the developing countries and increase their support to the United Nations Space Applications Programme.

Since 1992 will be International Space Year, which coincides with the tenth anniversary of UNISPACE 82, we hope that in carrying out its work the Working Group entrusted with following up implementation of the recommendations of UNISPACE 82 will make use of all available mechanisms to improve activities in international cooperation, in particular those set forth in the United Nations Space Applications Programme; it should also propose specific measures designed to broaden that cooperation and make it more effective.

Mr. QUINTANA (Spain)(interpretation from Spanish): I should like briefly to express the interest with which my delegation listened to the statement of the representative of Chile, who officially proposed his country as the site of the second Space Conference of the Americas in 1992. In March 1990, Spain played an active role at the Conference held in Costa Rica.

(Mr. Quintana, Spain)

My country regarded that Conference as an opportunity to establish useful contacts with the various Latin American organizations responsible for the exploration and investigation of outer space.

The objective of the Conference was to promote international cooperation between the Latin American countries themselves and between those countries and third countries elsewhere in the world. A series of recommendations was adopted at the Conference and were reflected in its report.

I should like to take this opportunity to reaffirm Spain's desire to continue to promote international cooperation in this field.

Mr. OBAKPOLOR (Nigeria): My delegation is very pleased with the modest achievements of the Committee and with the way it has conducted its activities over the years in various spheres. We are happy to be associated with the way the Committee has approached the problems that impede the fostering of better understanding on outer space matters between developed and developing nations. We are quite hopeful that in both developed and developing nations, where much remains to be done, the task of making outer space activities genuinely peaceful, secure and free will not be an impossible one.

Turning to the agenda item, there are some areas that we feel should be thoroughly examined, since they are affected by human activities and by events taking place throughout the world today.

The developed States continue, for the most part, to regard space activities as exclusively the province of the technologically advanced States. We believe that such States could be more helpful in assisting developing countries to become more involved in space activities instead of being mere recipients of data, short-term training and limited spin-off benefits. In this connection my delegation implores Member States that have

(Mr. Obakpolor, Nigeria)

not yet responded to the establishment of the proposed regional centre, as mentioned in the report of the United Nations Expert on Space Applications, to do so. We are pleased with the way the Programme has been executed, in spite of its financial difficulties.

My delegation views outer space, which has become the new frontier for human activities, as a safe haven for all, and it hopes that such will continue to be the case. The end of the cold war has given mankind hope for a peaceful universe. However, a new threat to peace is posed by the ever-widening gap between rich and poor, that is, the unequitable and vast difference in present-day technological knowledge among nations. We should not allow that phenomenon to extend into space activities, for if the gap between space Powers and the technologically disadvantaged space nations continues to widen, the aims and aspirations to share in the peaceful activities of outer space will not be achieved and the practical impact of spin-off benefits will be within the reach only of those that can afford to utilize them profitably. In order to prevent that imbalance between the technologically developed and less technologically developed countries from posing a future problem, the space Powers must contribute significantly to the mandate of the United Nations and UNISPACE 82 concerning the development of indigenous capability in the developing nations.

True international cooperation, justice and equity call for a conscious and determined reversal of this unfortunate trend. The developed nations, particularly the space Powers, should harmonize space exploration in such a way as to enable the developing countries to acquire the necessary technology and derive the needed related benefits at affordable cost.

(Mr. Obakpolor, Nigeria)

International cooperation in space activities should be fostered by getting the less technologically advanced countries involved in space programmes in order to give meaning to the noble objectives of the Committee. Developing countries desirous of participating in outer space activities should be systematically encouraged, not only in terms of training programmes but also in other higher echelons of space conquest.

The CHAIRMAN: The Committee will continue its consideration of these two agenda items on Monday.

SPIN-OFF BENEFITS OF SPACE TECHNOLOGY: REVIEW OF CURRENT STATUS

Mr. CHERNIAVSKI (Union of Soviet Socialist Republics)(interpretation from Russian): The spin-off benefits of space technology are constantly followed by the science and technological community in the Soviet Union. The influence of space activities is multifaceted, touching as it does upon the scientific and technological progress of mankind. Space activities are one of the major factors for raising the intellectual level and unifying the society in general. The use of the achievements of space activities increases the flow of information on the laws of nature and natural phenomena. Space exploration is enabling us to change, broaden and raise the level of our scientific knowledge. Space activity plays a leading role in computerizing society. The launching of spacecraft into Earth orbit enables us to acquire data and exchange information worldwide.

Space activities also play an important role in improving the performance of present-day industry by disseminating the achievements realized through developing and running space technology. At the present time, the space industry has the scientific, technical, organizational and production potential to enable it to create both the technical means to explore, study

(Mr. Cherniavski, USSR)

and utilize outer space and the ability to produce things not directly related to space exploration. The extreme conditions prevailing in outer space and the energy constraints involved in launching a payload into space trajectory pose special and unusual design requirements for devices to be used for space exploration. That means that new and advanced technologies are being used in the space industry, which, in turn, stimulates the development of such peripheral fields of industry as energy, chemistry, metallurgy, electronics and others.

Space technology is extremely complicated and fast moving, and its development cycles are very short. That means that it is science intensive and mobile. Space is a very specific area of knowledge, which translates into such technological principles as, inter alia, the uniformity of design materials and production processes, mathematical and physical modelling, the simulation of operating conditions, increased experimental runs and the automation of production. All this creates conditions for the effective use of space technology in other areas, in particular in the manufacture of consumer goods, machine tools and other equipment.

The Soviet space industry also manufactures items destined for Earth use; first and foremost among these are consumer goods, which are being manufactured in larger and increasing volumes. By 1995 there should be a twofold increase in the proportion of such production in the over-all production volume. The number of basic technologies transferred from the space industry to other areas will rise from 16 in 1991 to 28 in the year 2000. The first test areas for the wide use of space technology in the Soviet Union are in machine tools, factories and the manufacture of machine tools for light industry and the food industry. Today, using space technology, we are

(Mr. Cherniavski, USSR)

developing new technologies of food processing, including meat-processing devices, equipment for the baking, confectionary, oils and milk-products industries, plants for potato processing and production lines for baby food, as well as soap manufacturing and many other areas.

In the meat industry, for example, to mince meat we are using steel to manufacture knives that has been used in some systems of the Energia-Buran complex. Space equipment and technology is adapted for use in the manufacture of containers for the bread industry, and in developing a new line of home refrigerators we have used a pipe design analogous to that used in spacecraft. We are also actively using space technology in medicine, including the manufacture of electrocardiogram devices, kidney dialysis equipment and X-ray equipment. We are designing and manufacturing artificial limbs using cold-resistant stainless steel developed in our space programme.

We are also using space technology to solve some of our environmental problems. We are developing technologies to clean gases in metallurgy and ways of monitoring the environment. We should also note that wide use is being made of space technology in the fields of quality control and safety, standardization and unification.

The foregoing is a vastly abridged list of the spin-off benefits derived from space technology that are being put to use in the Soviet Union. A working paper, which includes an overview of the current status of spin-off benefits derived from space technology in the Soviet Union, will be submitted to the Committee. We will also submit to the Secretariat copies of a pamphlet on rocket-space industry conversion in the Soviet Union.

ORGANIZATION OF WORK

The CHAIRMAN: There are no delegations wishing to make statements this afternoon, and that being the case, and considering that we have had a full week of work, this afternoon's meeting will be cancelled. On Monday we shall have the opportunity to continue our consideration of agenda item 10, continue and conclude our consideration of agenda items 7 and 9 and begin discussions on item 8, Report of the Legal Subcommittee. Delegations wishing to speak on those agenda items should inscribe their names with the Secretariat as soon as possible.

The meeting rose at 12.20 p.m.